Claims

1. A rotary joint for at least two parts which are movable relative to each other, e.g. for end gates of vehicles, characterised in that at each one of said parts (60, 61) a mounting member for mounting a stop range for at least one spring (10, 63) is arranged, said spring biasing said parts (60, 61) relative to each other at least during part of the displacement.

2. The rotary joint according to claim 1, characterised in that a bias may be applied to at least one of said springs (10, 63).

3. The rotary joint according to claim 1 or 2, characterised in that an open path is provided for at least one of said springs (10, 63).

4. The rotary joint according to one of claims 1 to 3, characterised in that at least one of said springs (10, 63) has the form of a torsion spring.

5. The rotary joint according to one of claims 1 to 4, characterised in that said spring (10, 63) is provided with a drive pin (9) which is guided in a guide groove (8).

6. The rotary joint according to one of claims 1 to 5, characterised in that a receiving recess (11) for said drive pin (9) in a loaded condition of said spring (10, 63) is provided.

7. The rotary joint according to one of claims 1 to 3, characterised in that said spring (10, 63) has the form of a linear spring.

8. The rotary joint according to one of claims 1 to 7, characterised in that at least two springs (10, 63) are provided.

9. The rotary joint according to one of claims 1 to 8, characterised in that different activation points are provided for said springs (10, 63).

10. The rotary joint according to one of claims 1 to 9, characterised in that different deactivation points are provided for said springs (10, 63).

11. An energy storage device in spring storages wherein a spatial work range is defined by a displacement path upon compression of at least one spring of said spring storage, characterised in that along the work range in the working direction at least two springs (63) are arranged which, upon compression or relaxation, respectively, are impinged in temporal succession; that at least one stationary retaining element (60) and one mobile runner (61) are provided for impinging said springs (63); that a spring (63) loaded at a first point of time is immobilised in such a way that during a further displacement of said runner (61) no further force is exerted by said spring (63) between said runner (61) and said retaining element (60); and that reactivation of said immobilised springs (63) is provided in temporal succession upon a reverse movement of said runner (61).

12. The device according to claim 11, characterised in that said retaining element (60) has the form of a sleeve.

13. The device according to claim 11 or 12, characterised in that said runner (61) is guided inside said sleeve-shaped retaining element (60).

14. The device according to one of claims 11 or 12, characterised in that said runner (61) is guided externally of said retaining element (60).

15. The device according to one of claims 11 to 14, characterised in that at least one of said springs (63) has the form of a spiral spring.

16. The device according to one of claims 10 to 15, characterised in that said spring (63) may in a loaded condition be immobilised in a reception (69) of said retaining element (60) through a pressure member (65).

17. The device according to one of claims 1 to 16, characterised in that at least two springs (63) comprise work ranges overlapping in the direction of displacement.

18. The device according to one of claims 10 to 17, characterised in that a programmable release of said springs (63) is provided.

19. The device according to one of claims 1 to 18, characterised in that predeterminable intermediate immobilisation positions are provided for said springs (63).

20. The device according to one of claims 10 to 19, characterised in that a guide groove for guiding a drive pin (9) of said spring (63) is subdivided into transversal and longitudinal segments.

21. The device according to one of claims 11 to 20, characterised in that several springs (63) each are allocated to separate work modules, and that at least two work modules are arranged sequentially in the working direction.

22. The device according to one of claims 11 to 21, characterised in that at least one of said springs (63) has the form of a gas pressure spring.

23. The device according to one of claims 11 to 22, characterised in that at least one of said springs (63) has the form of a spiral spring which, in the range of one end thereof, is secured to a rotation shaft.

24. A device for storing energy in spring storages, wherein a spatial work range is defined by a displacement path upon compression of at least one spring of the spring storage, characterised in that said springs (10, 63) arranged in the area of the spring storage may be arranged such as to act in parallel in the working direction at least upon release of the spring energy.

25. The device according to claim 24, characterised in that a permanent parallel arrangement is provided for said springs (10, 63).

26. The device according to claim 24 or 25, characterised in that said springs (10, 63) are secured to a shaft in the range of one end thereof and to a sleeve in the range of another end thereof.

27. The device according to one of claims 1 to 26, characterised in that at least one mechanical latch element is provided for immobilising at least one movable element relative to at least one stationary member.

28. The device according to one of claims 1 to 27, characterised in that a plurality of spring storage elements (132 to 139) are arranged at the outer circumference of a central main pressure tube (124) in

such a way that the drive members (130) of said spring storage elements (132 to 139) penetrate through slots (140) in the main pressure tube (124) and/or in a spring receiving sleeve (126) of said spring storage elements (132 to 139), such that the free end portion of each drive member projects into the cavity of said main pressure tube (124), whereby a pressure piston drivingly engages the drive member to apply force to said spring storage elements (132 to 139) upon application of a force.

29. The device according to claim 28, characterised in that said drive members (130) in their starting positions have a staggered arrangement in the axial direction.